CLAIMS

1. A microphone comprising:

a housing;

a port disposed in the housing leading to an interior chamber;

a diaphragm;

a diaphragm support disposed between the diaphragm and the housing, wherein the diaphragm support includes a first channel;

a backplate;

a diaphragm spacer disposed between the diaphragm and the backplate to create a gap between the diaphragm and backplate, wherein the diaphragm spacer includes a second channel,

wherein the diaphragm, diaphragm support, backplate, and diaphragm spacer are disposed in the interior chamber, and wherein the first channel and second channel form a shunting channel for low frequency signal components around the diaphragm.

2. The microphone of claim 1, wherein the low frequency signal components are caused by wind noise.

3. The microphone of claim 1, wherein the diaphragm spacer is ring shaped with an inner radius and an outer radius, and the second channel is a slot extending from the inner radius to the outer radius.

4. The microphone of claim 1, wherein the first channel is a shunting groove in the surface of the diaphragm support.

5. The microphone of claim 1, wherein the backplate includes a thru-hole which in part forms the shunting channel for low frequency components.

6. The microphone of claim 1 further comprising a chamber disposed between the diaphragm support and the diaphragm spacer, wherein the chamber in part forms the shunting channel for low frequency components.

7. The microphone of claim 1, wherein the microphone is an omni-directional microphone.

8. The microphone of claim 1, wherein the microphone is a directional microphone.

9. The microphone of claim 1, further comprising a transistor and a printed circuit board, wherein the transistor is coupled to the backplate and the printed circuit board.

10. The microphone of claim 9, further comprising an insulating spacer disposed between the printed circuit board and the backplate.

11. A microphone comprising:

a housing, wherein an inner surface of the housing includes a housing channel;

a port disposed in the housing leading to an interior chamber;

a diaphragm;

a diaphragm support disposed between the diaphragm and the housing;

a backplate;

a diaphragm spacer disposed between the diaphragm and the backplate to create a gap between the diaphragm and backplate;

an insulating spacer disposed in a lower portion of the interior chamber below the diaphragm and backplate, wherein the insulating spacer includes an insulator aperture adjacent the housing channel,

wherein the diaphragm, diaphragm support, backplate, diaphragm spacer, and insulating spacer are disposed in the interior chamber, and wherein the housing channel

and the insulator aperture form a shunting channel for low frequency signal components around the diaphragm.

12. The microphone of claim 11, wherein the insulating spacer includes an alignment key aligned with the insulator aperture.

13. The microphone of claim 11, wherein the housing is a hollow cylinder with an inner and outer radius, and the insulating spacer is a hollow cylinder with an inner and outer radius, wherein the insulating spacer outer radius is slightly smaller than the inner radius of the housing.

14. The microphone of claim 11, wherein the low frequency signal components are caused by wind noise.

15. The microphone of claim 11, wherein the housing channel is a groove in the inner surface of the housing.

16. The microphone of claim 11, wherein the backplate includes a thru-hole which in part forms the shunting channel for low frequency components.

17. The microphone of claim 11, wherein the microphone is an omni-directional microphone.

18. The microphone of claim 11, wherein the microphone is a directional microphone.

19. The microphone of claim 11, further comprising a transistor and a printed circuit board, wherein the transistor is coupled to the backplate and the printed circuit board.

20. A method for reducing wind noise pickup in a microphone comprising:

providing a microphone with a housing, a port disposed in the housing leading to an interior chamber, a first channel from the port to a first side of the diaphragm facing the port, and a second channel from the port to a second side of the diaphragm;

receiving a voice signal and a wind noise signal through the port;

propagating the voice signal along the first channel; and

propagating the wind noise signal along the second channel, wherein the effects of the wind noise signal on the diaphragm are thereby reduced.

21. The method of claim 20, wherein the second channel comprises:

a shunting groove in a diaphragm support, wherein the diaphragm support is disposed between the diaphragm and the housing; and

a shunting slot in a diaphragm spacer, wherein the diaphragm spacer is disposed between the diaphragm and a backplate.

22. The method of claim 21, wherein the second channel further comprises

a thru-hole disposed in the backplate.

23. A microphone with reduced wind noise pickup comprising:

a housing;

a port disposed in the housing leading to an interior chamber;

a diaphragm with a first side and a second side, wherein the first side faces the port;

a backplate;

a shunt channel from the port to the second side of the diaphragm, wherein the shunt channel receives a wind noise signal to reduce the effects of the wind noise signal on the diaphragm.

24. The microphone of claim 23, further comprising:

a diaphragm support disposed between the diaphragm and the housing;

a diaphragm spacer disposed between the diaphragm and the backplate to create a capacitance gap between the diaphragm and the backplate; and

a transistor coupled to the backplate.

25. The microphone of claim 24, further comprising a printed circuit board coupled to the transistor.

26. The microphone of claim 25, further comprising an insulating spacer disposed between the printed circuit board and the backplate.

27. The microphone of claim 23, wherein the backplate includes a thru-hole which in part forms the second channel for low frequency components.

28. A microphone comprising:

a housing, wherein an inner surface of the housing includes a first channel;

a port disposed in the housing leading to an interior chamber;

a diaphragm;

a diaphragm support disposed between the diaphragm and the housing;

a backplate;

a diaphragm spacer disposed between the diaphragm and the backplate to create a gap between the diaphragm and backplate, wherein the diaphragm spacer includes a second channel,

wherein the diaphragm, diaphragm support, backplate, and diaphragm spacer are disposed in the interior chamber, and wherein the first channel and second channel form a shunting channel for low frequency signal components around the diaphragm.

29. The microphone of claim 28, wherein the low frequency signal components are caused by wind noise.

30. The microphone of claim 28, wherein the diaphragm spacer is ring shaped with an inner radius and an outer radius, and the second channel is a slot extending from the inner radius to the outer radius.

31. The microphone of claim 28, wherein the backplate includes a thru-hole which in part forms the shunting channel for low frequency components.